



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2013-0704; Directorate Identifier 2013-NM-074-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 747-200B, -200C, -200F, -300, and 747SR series airplanes. This proposed AD was prompted by reports of cracks of both lower chords and web on certain outboard struts. This proposed AD would require repetitive inspections for cracking of the lower spar chords and web, web lower spar chord modification, which includes inspections for cracking of the lower spar chords, and repetitive post modification inspections for cracking of the lower spar web and chord; and applicable corrective actions. We are proposing this AD to prevent cracked chords and web on certain outboard struts, which, if the chord severs, could result in reduced structural integrity of the diagonal brace load path and of the strut-to-wing attachment, and consequent separation of a strut and engine from the airplane during flight.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Nathan Weigand, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6428; fax: 425-917-6590; email: [nathan.p.weigand@faa.gov](mailto:nathan.p.weigand@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2013-0704; Directorate Identifier 2013-NM-074-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

### **Discussion**

We received reports of cracks at nacelle station 300 on both lower chords and the web on outboard strut no. 1. Outboard strut no. 1 had approximately 41,300 total flight cycles and 63,300 total flight hours. The cracking was due to fatigue from normal operating loads. The chords are the main load path for the diagonal brace attach fitting. Cracked and severed chords and web on certain outboard struts could result in reduced structural integrity of the diagonal brace load path, and compromise the strut-to-wing attachment, which could result in consequent separation of a strut and engine from the airplane during flight.

### **Relevant Service Information**

We reviewed Boeing Alert Service Bulletin 747-54A2237, dated March 14, 2013. For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for Docket No. FAA-2013-0704.

### **FAA's Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of these same type design.

### **Proposed AD Requirements**

This proposed AD would require accomplishing the actions specified in the service information identified previously, except as discussed under “Differences Between the Proposed AD and the Service Information.”

The phrase “corrective actions” is used in this proposed AD. “Corrective actions” are actions that correct or address any condition found. Corrective actions in an AD could include, for example, repairs.

### **Differences Between the Proposed AD and the Service Information**

The service bulletin specifies to contact the manufacturer for instructions on how to repair certain conditions, but this proposed AD would require repairing those conditions in one of the following ways:

- In accordance with a method that we approve; or
- Using data that meet the certification basis of the airplane, and that have been approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) whom we have authorized to make those findings.

### **Costs of Compliance**

We estimate that this proposed AD affects 25 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

### Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspections	27 work-hours X \$85 per hour = \$2,295 per inspection cycle	\$0	\$2,295 per inspection cycle	\$57,375 per inspection cycle
Modification	11 work-hours X \$85 per hour = \$935	\$95	\$1,030	\$25,750
Post Modification Inspection	27 work-hours X \$85 per hour = \$2,295 per inspection cycle	\$0	\$2,295 per inspection cycle	\$57,375 per inspection cycle

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this proposed AD.

### Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**The Boeing Company:** Docket No. FAA-2013-0704; Directorate Identifier 2013-NM-074-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to The Boeing Company Model 747-200B, 747-200C, 747-200F, 747-300, and 747SR series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 747-54A2237, dated March 14, 2013.

**(d) Subject**

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 54, Nacelles/Pylons.

**(e) Unsafe Condition**

This AD was prompted by reports of cracks of both lower chords and web on certain outboard struts. We are issuing this AD to prevent cracked chords and web on certain outboard struts, which, if the chord severs, could result in reduced structural integrity of the diagonal brace load path and of the strut-to-wing attachment, and consequent separation of a strut and engine from the airplane during flight.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Initial and Repetitive Inspections**

(1) Except as required by paragraph (j)(1) of this AD, at the compliance time specified in table 1 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-54A2237, dated March 14, 2013: Do a detailed inspection for cracking of the lower spar chords and web, a high frequency eddy current (HFEC) inspection for cracking of the lower spar chords, and all applicable repairs and modifications, in accordance with

the Accomplishment Instructions of Boeing Alert Service Bulletin 747-54A2237, dated March 14, 2013, except as required by paragraph (j)(2) of this AD. If no cracking is found, repeat the inspections thereafter at intervals not to exceed 600 flight cycles, until the actions specified in paragraph (h) of this AD have been accomplished. Do all applicable corrective actions before further flight. Accomplishing a repair and modification, including open-hole HFEC inspections for cracking and applicable corrective actions required by this paragraph terminates the actions required by paragraphs (g) and (h) of this AD for the repaired and modified strut only. The open-hole HFEC inspection for cracking must be done before the modification.

**(h) Inspection and Modification**

Except as required by paragraph (j)(1) of this AD, at the compliance time specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-54A2237, dated March 14, 2013: Do a detailed inspection for cracking of the lower spar chords and web, an HFEC inspection for cracking of the lower spar chords, a lower spar chord modification, including open-hole HFEC inspections for cracking in the chord and all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-54A2237, dated March 14, 2013, except as required by paragraph (j)(2) of this AD. Do all applicable corrective actions before further flight. Doing the actions specified in this paragraph terminates the requirements of paragraph (g) of this AD for the modified strut only. The open-hole HFEC inspection for cracking must be done before the modification.

**(i) Post Modification Repetitive Inspections**

For airplanes on which a modification required by paragraph (g) or (h) of this AD has been done: At the compliance time specified in table 2 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-54A2237, dated March 14, 2013, do a detailed inspection for any cracking of the lower spar web and chord, and do all



applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-54A2237, dated March 14, 2013, except as required by paragraph (j)(2) of this AD. Repeat the inspection thereafter at intervals not to exceed 18 months. Do all applicable corrective actions before further flight.

**(j) Exceptions**

(1) Where Boeing Alert Service Bulletin 747-54A2237, dated March 14, 2013, specifies a compliance time after the original issue date on the service bulletin, this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Where Boeing Alert Service Bulletin 747-54A2237, dated March 14, 2013, specifies to contact Boeing for appropriate action: Before further flight, repair the crack using a method approved in accordance with the procedures specified in paragraph (k) of this AD.

**(k) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle Aircraft Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD. Information may be emailed to: [9-ANM-Seattle-ACO-AMOC-Requests@faa.gov](mailto:9-ANM-Seattle-ACO-AMOC-Requests@faa.gov).

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes

Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

**(I) Related Information**

(1) For more information about this AD, contact Nathan Weigand, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6428; fax: 425-917-6590; email: [nathan.p.weigand@faa.gov](mailto:nathan.p.weigand@faa.gov).

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on August 21, 2013.

Stephen P. Boyd,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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